

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 11071115
PUBLICATION DATE : 16-03-99

APPLICATION DATE : 18-06-98
APPLICATION NUMBER : 10187031

APPLICANT : TOSOH CORP;

INVENTOR : MORI TAKASHI;



INT.CL. : C01G 45/00 C01G 49/00 C01G 51/00
C01G 53/00 H01M 4/02 H01M 4/58
H01M 10/40

TITLE : LITHIUM MANGANESE-BASED OXIDE,
HAVING SPINEL STRUCTURE AND
CONTAINING ANOTHER KIND OF
ELEMENT, ITS PRODUCTION AND
USE THEREOF

ABSTRACT : PROBLEM TO BE SOLVED: To suppress the elution of Mn in an organic electrolytic solution of a lithium secondary battery by using a lithium manganese-based oxide having a spinel structure of a specific chemical composition containing at least another kind of element other than Li and Mn as a material of a positive electrode.

SOLUTION: This lithium manganese-based oxide having a spinel structure is represented by the formula [the interior of { } denotes the position of an oxygen tetrahedron in the structure; the interior of [] denotes the position of an oxygen octahedron in the structure; $0 < (x) \leq 0.33$; $0 < (y) \leq 1$; $-0.5 < (d) < 0.8$] and contains at least another element (M) other than Li and Mn. The crystal structure is a cubic crystal and the lattice constant (a) is ≥ 8.19 and ≤ 8.24 Å. The other element M is selected from Be, Mg, Ca, Y, Ti, V, Cr, Fe, Cu, B, Al, Si, Pb, P and the like. Furthermore, the oxide preferably has 1-50 µm average agglomerated particle diameter, 0.1-5 m²/g BET specific surface area and ≤ 3 µm average primary particle diameter. The lithium manganese-based oxide containing the other element is produced by mixing respective compounds of the Mn, Li and the other element and baking the resultant mixture.

COPYRIGHT: (C)1999,JPO